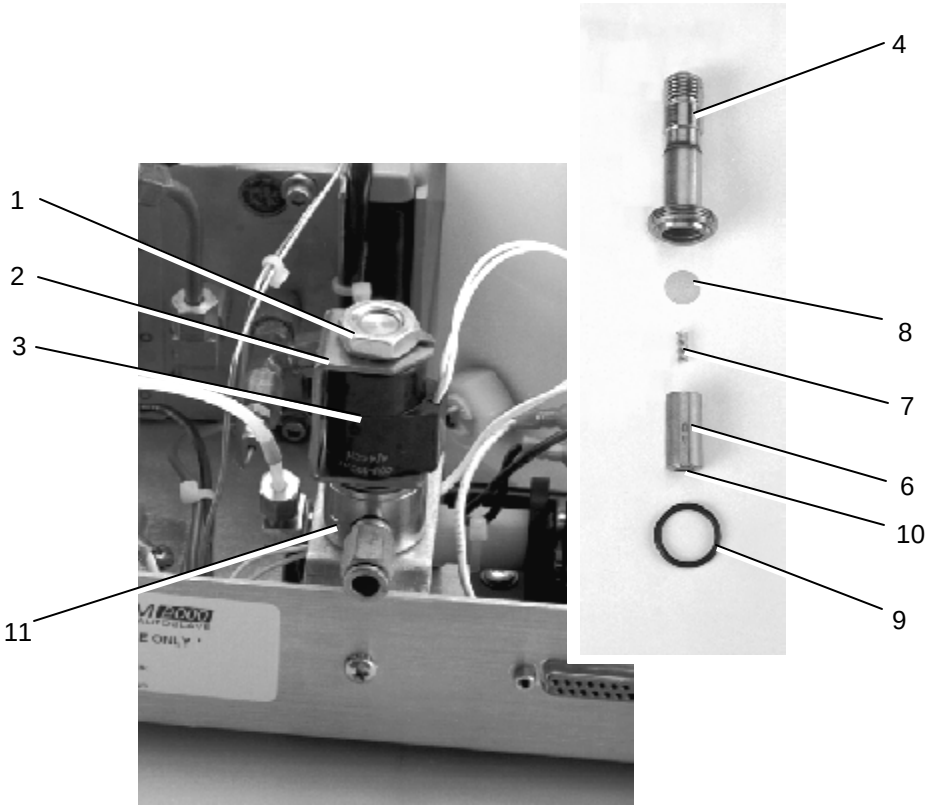
Solenoid Valve Repair, Removal and Replacement

The unit being serviced has been manufactured using one of two types of solenoid valve:
Type A is a two part square bodied unit.
Type B is a two part cylindrical bodied unit (see Figure 1).
If a Type A unit requires servicing or has failed, replace it with a Type B solenoid valve ONLY.



Type B Solenoid Valve

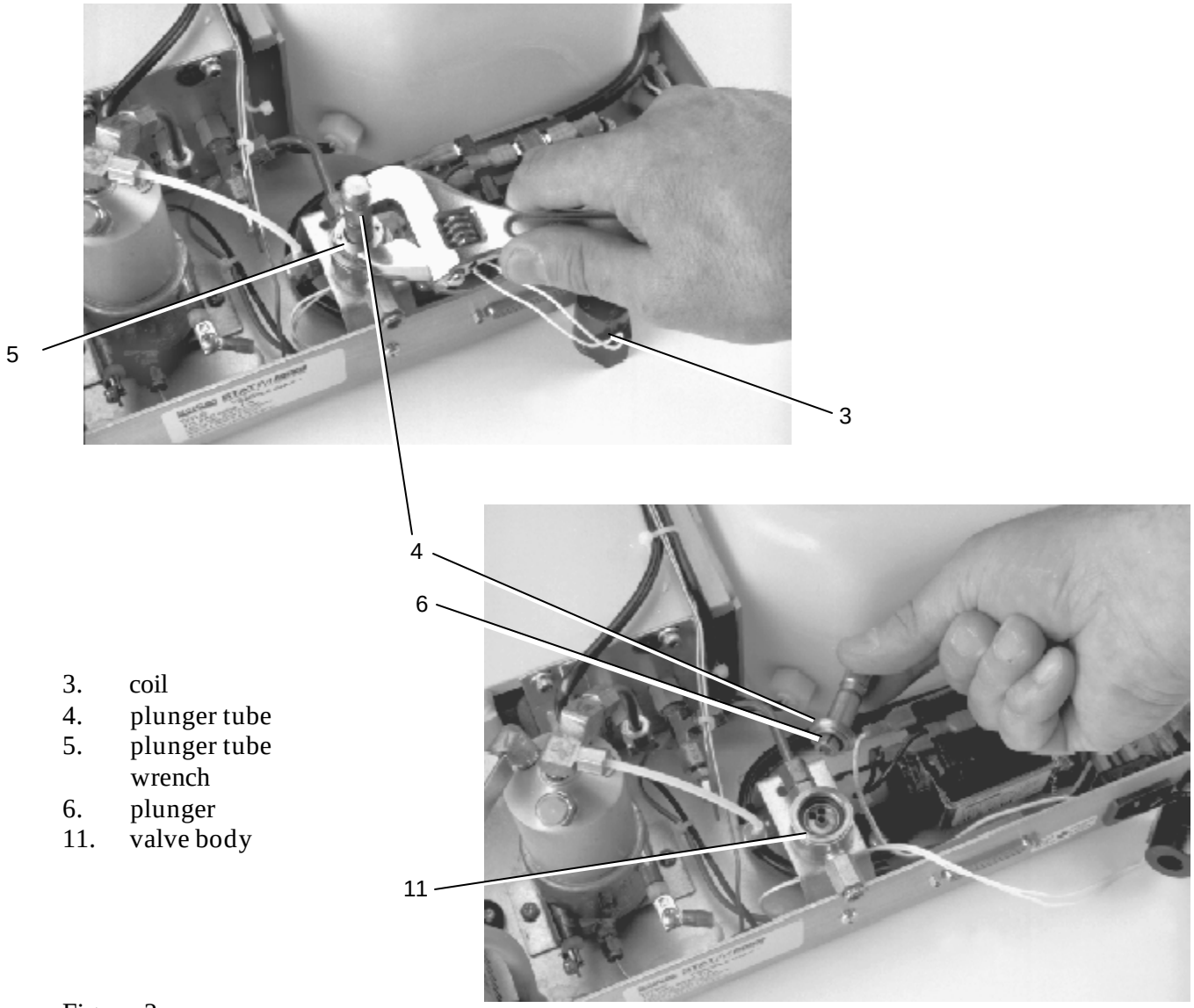
1.	nut	7.	plunger spring
2.	yoke	8.	bronze disc
3.	coil	9.	o-ring
4.	plunger tube	10.	plunger seal
6.	plunger	11.	valve body

Figure 1

Inspecting and Repairing the Type B Solenoid Valve

The solenoid valve assembly may be inspected and / or repaired while in the unit. To inspect and / or repair the assembly, follow these steps (see Figures 1 and 2):

1. To determine that the solenoid is working, test the solenoid valve by using the solenoid valve switch on the Control box. When the switch is



3. coil
4. plunger tube
5. plunger tube wrench
6. plunger
11. valve body

Figure 2

activated, the sound of the coil energizing can be heard. REMOVE OR UNSEAT THE CASSETTE SO THAT THE MICROSWITCH IS NOT ACTIVATED. See, *Required Information, Tools and Routine Maintenance., the Control Box.*

2. Turn the power switch OFF, and unplug the unit. If the solenoid is activated during disassembly the coil will be damaged.

3. Disconnect the solenoid leads from the Controller Board terminal block positions labelled J1-7 LINE and J1-8 NEUTRAL. Use a multimeter in diode setting to determine whether or not the coil has failed. If the measured values are approximately equal in each direction, the coil has not failed. If there is no measured value or the values are other than approximately equal, replace the coil assembly.

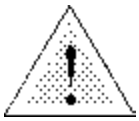
4. Remove the nut (1) from the top of the solenoid valve assembly using an 11/16 inch wrench.

5. Pull the yoke (2) and coil (3) off the plunger tube (4) in an upward direction. Note the orientation of the yoke and coil for reassembly. To allow the coil to rest outside the unit, cut any cable ties required.

6. Unscrew the plunger tube from the valve body using the solenoid plunger tube wrench (5) and a 3/4 inch wrench or adjustable wrench. Check that the plunger is moving freely in the valve body. See, *Required Information, Tools and Routine Maintenance.*

7. Remove the plunger (6), plunger spring (7) and bronze disc (8) from the valve plunger tube body.

8. Inspect the o-ring (9) and the plunger seal (10) for nicks, compression set or swelling (the seal should not extend more than 0.010 inches from the plunger body).



9. Inspect the valve body (11) for debris. If the debris appears to be fragments of rubber, inspect the cassette seal for damage.

10. Clean the valve plunger, valve body and fittings using oil free compressed air to blow debris from the surfaces.

11. Once the valve components have been inspected, determine if the assembly needs cleaning only, a new coil, the repair kit for the solenoid valve or an entire valve assembly. See *Spare Parts*.

12. Reinstall or replace; the bronze disc (8), plunger spring (7), plunger (6) and o-ring (9) to the plunger tube (4). (Order SciCan Kit Part # 01-100998S.)

13. Screw the plunger tube into the valve body (11) and tighten using the solenoid tube wrench.

14. Place the coil (3) inside the yoke (2) and place onto the plunger tube.

15. Reinstall the coil retaining nut (1).

16. Connect the leads to Controller Board terminal block positions labelled J1-7 LINE and J1-8 NEUTRAL. These two wires are interchangeable.

17. Test the solenoid by activating the solenoid switch on the Control box. REMOVE OR UNSEAT THE CASSETTE SO THAT THE MICROSWITCH IS NOT ACTIVATED. See,*Required Information, Tools and Routine Maintenance, the Control Box*.

18. If the solenoid valve assembly or the solenoid coil is replaced, a dielectric strength test (Hi-Pot) and a protective bonding impedance test (ground continuity) MUST be performed on the STAT*IM* / STAT*IM 1000* / *2000* unit. See *Required Information, Tools and Routine Maintenance.*

19. Replace any cable ties cut during the procedure.

Removing the Solenoid Valve

To remove the solenoid valve follow these steps (See Figure 3):

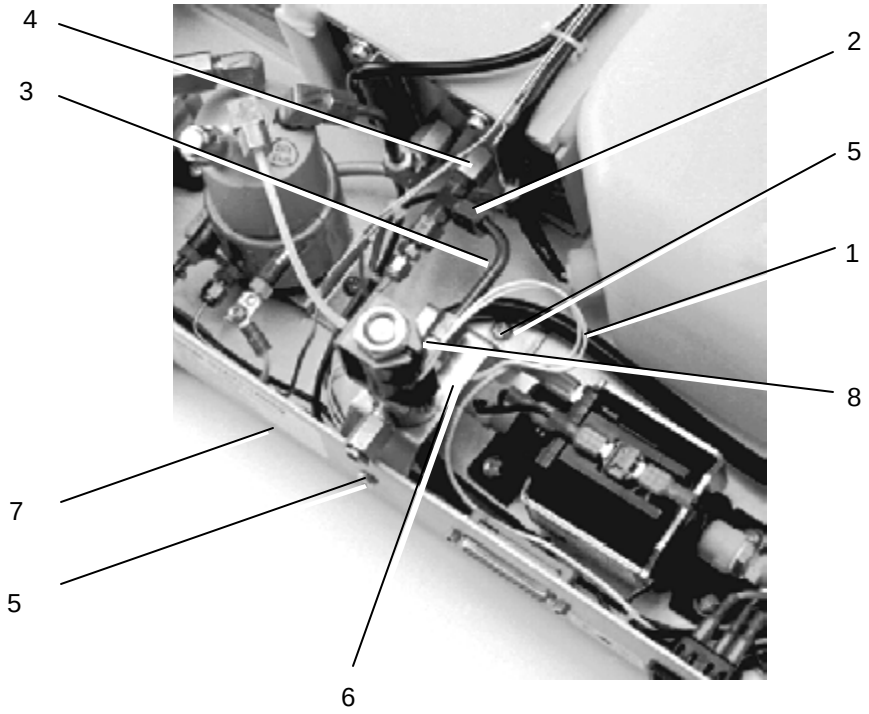
1. Turn the power switch OFF, and unplug the unit.

2. Carefully cut the cable ties holding the solenoid valve leads and disconnect the leads (1) from the Controller Board terminal block positions labelled J1-7 LINE and J1-8 NEUTRAL.

3. Disconnect the compression nut (2) holding the outlet probe tube (3) to the outlet fitting (4) on the probe bracket assembly.

4. Remove the two screws (5) that attach the solenoid valve bracket (6) to the chassis (7): one on the inside of the chassis, one on the outer rear surface of the chassis.

5. Inspect the solenoid valve to determine whether servicing or replacement is warranted. See, *Repairing the Solenoid Valve Assembly*.



1. solenoid leads
2. compression nut
3. outlet probe tube
4. outlet fitting
5. screw
6. solenoid valve bracket
7. chassis
8. solenoid valve inlet fitting

Figure 3

Replacing the Solenoid Valve

To replace the solenoid valve assembly, follow these steps (see Figure 3):

1. Make sure the power switch is OFF, and the unit is unplugged.

2. Connect a new outlet probe tube (3) to the solenoid valve inlet fitting (8). Thread the compression nut, finger tight, on the inlet fitting.

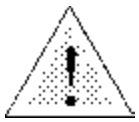
3. Place the solenoid valve assembly in the unit.

4. Connect the other end of the outlet probe tube (3) to the outlet probe fitting on the probe bracket outlet fitting (4). Thread the compression nut, finger tight, on the inlet fitting. Tighten the nuts on both ends of the outlet probe tube using a 7/16 inch wrench. DO NOT OVER-TIGHTEN.

5. Attach the solenoid valve bracket (6) to the chassis (7) using the two screws (5) retained from disassembly: one on the inside of the chassis, one on the outer rear surface of the chassis.

6. Route the solenoid valve leads (1) together with the bundle of wires extending to the Controller Board and connect the leads to Controller Board terminal positions labelled J1-7 LINE and J1-8 NEUTRAL. These wires are interchangeable in the positions.

7. Bundle the wires together and secure them using cable ties every 2-3 inches.



8. Test the solenoid by activating the solenoid switch on the Control box. REMOVE OR UNSEAT THE CASSETTE SO THAT THE MICROSWITCH IS NOT ACTIVATED. See, *Required Information, Tools and Routine Maintenance, the Control Box.*

9. A dielectric strength test (Hi-Pot) and a protective bonding impedance test (ground continuity) MUST be performed on the STAT*IM* / STAT*IM 1000* / *2000* unit. See *Required Information, Tools and Routine Maintenance*.

10. Run a sterilization cycle and observe all fittings and tubes for leaks. Check LCD read-outs for messages indicating cycle status.

Document Change Record

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REV.	DATE	DESCRIPTION OF CHANGES	ECO
1.0	97.11.24	New.	97-069